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(54) IMPROVEMENTS IN OR RELATING TO PANEL WALLS WITH HINGED INTERCONNECTED PANEL ELEMENTS

(71) We, FORMFAC INTERNATIONAL AB, a company duly organized and existing under the laws of Sweden, of Hammarvägen 1, 232 00 Ärlöv, Sweden, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 In modern open-plan offices and industrial workshops, panels for sound-damping and other purposes are often used to divide up the open-plan office or industrial workshop into smaller units. These panels or other
 15 furnishing components are often interconnected by means of various fittings which, however, permit only certain predetermined angles of position between abutting furnishing components. These connecting devices
 20 display disadvantages, not only concerning the limited choice of positional angles but also concerning cost, because the various fittings are relatively expensive and require careful mounting on the furnishing components, so that they fit each other.

25 In an attempt to create freedom of choice concerning the angles of position between abutting furnishing panels; in this case folding door elements; it has been suggested, in the British Patent Specification 921,647, to use gear segments which are mounted along the vertical edges of the door elements. A longitudinal clamp member serves to hold the door elements in engagement and to
 35 maintain the gear segments in mesh. This construction is, however, not only expensive but also disadvantageous when used in connection with furnishing components such as sound-damping panels, which are often
 40 moved around, according to the required rearrangement of the furnishing in the open-plan office, or, according to the placing of machinery in the industrial workshop.

45 An object of the present invention is to provide a panel-wall which overcomes the disadvantages in the prior art devices serving similar purposes.

50 Another object of the invention is to provide a panel wall with interconnected hinged panels which can be easily separated.

According to the present invention a panel wall comprises juxtapositioned interconnected hinged panel elements, the end edges of the juxtapositioned panel elements being covered with complementary burr fastener tapes to form a hinge connection permitting the panel elements to be pivoted in relation to each other.

Burr fastener tapes are of two kinds, the first comprising a pair of co-operating tapes one of which carries loops and the other hooks and the other kind comprising a pair of tapes both of which carry mushroom-shaped projections which interlock when the tapes are pushed together, U.S. Patent Specification 3,114,951 describes burr fastener tapes of the kind sold under the Trade Mark VELCRO.

Preferably the burr fastener tapes are affixed to an arcuate frame element attached to its pertinent panel member which may be a sound-damping panel or the like.

Other objects of the invention will be apparent from the following description in which some embodiments of the invention are described with reference to the accompanying drawing.

In the drawing:

Fig. 1 shows a perspective view of two sound-damping panels which have been interconnected by means of a hinge device according to the invention;

Fig. 2 shows a section on the line II—II in Fig. 1.

Fig. 3 shows a perspective view of two sound-damping panels 10 which are interconnected by means of a hinge device according to the invention. This hinge device consists of two complementary burr fastener tapes 11, 12 of the kind sold under the Trade Mark VELCRO which are mounted on their respective semi-cylindrical frame elements 13, 14, in turn, affixed to the edges of the sound-damping panels 10.

The opposite edges of the sound-damping panels 10 in Fig. 1 have each been fitted with their respective types of tape. One tape, for example, tape 11, is of the closed loop type, while the other tape 12 is of the cut loop type in which the loops form small

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hooks for engagement with the loops on the other complementary tape 11.

Fig. 2 shows a method of designing the semi-circular frame elements or profiles which are arranged at the edges of the sound-damping panels. Thus, each frame element 13 is in the form of an extruded channel-shaped profile with a semi-circular arch 14 which terminates in inwardly directed limbs 15 which merge into their respective outwardly directed flanges 16 at their mutually facing edges. Each flange has a barb-like thickened portion 17 as its outer end. The thickened portions 17 clasp inwardly bent edge portions 18 on a substantially U-shaped profile 19 which is either affixed (for example, by pop-riveting) to the supporting frame 20 of the sound-proofing panel, or itself forms the supporting frame of the sound-proofing panel (this latter embodiment is not shown). The thickened portions 17 and the inwardly bent edge portions 18 will function as a snap-action catch because of the yieldingness of the semi-circular arch 14.

In order to leave room for the burr fastener tape, the inwardly directed limbs 15 have preferably been jogged at 21.

A great advantage inherent in, for example, the semi-cylindrical frame element 13 is that more than two furnishing components can be connected to each other at the same pivot point. Thus, for example, two furnishing components fitted with the tape 11 on their frame elements 13 can be connected to one and the same frame element 13, fitted with the tape 12, on another furnishing component.

Experiments have shown that the hinge device according to the invention is very strong and resists in particular shearing

forces, for which reason there is very little risk that two or more interconnected furnishing components will be detached from each other by shearing at right angles to the hinge axis. This powerful resistance of the hinge and connecting device ensures that, for example, sound-damping panels, as shown in Fig. 1, can be fitted with straight legs 23 without outwardly extending support feet, while still avoiding the risk of the panels falling over.

WHAT WE CLAIM IS:—

1. A panel wall comprising juxtaposed interconnected hinged panel elements, in which the end edges of the juxtaposed panel elements are curved and covered with complementary burr fastener tapes to form a hinge connection permitting the panel elements to be pivoted in relation to each other.
2. A panel wall as claimed in claim 1, characterised in that the burr fastener tapes are affixed to an arcuate, frame element attached to its pertinent panel element.
3. A panel wall as claimed in claim 1 or claim 2 in which each panel is provided with legs.
4. A panel wall as claimed in claim 1, claim 2 or claim 3 in which the panel elements are sound damping elements which have the same height as the assembled wall.
5. A panel wall substantially as described herein with reference to and as shown in the accompanying drawings.

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COMPLETE SPECIFICATION

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This drawing is a reproduction of the Original on a reduced scale

FIG.1

